

2N3762, 2N3762L JAN, JTX, JTXV
2N3763, 2N3763L JAN, JTX, JTXV
2N3764 JAN, JTX, JTXV
2N3765 JAN, JTX, JTXV



Processed per MIL-PRF-19500/396

PNP SWITCHING SILICON TRANSISTOR
MAXIMUM RATINGS

Ratings	Symbol	2N3762, L 2N3764	2N3763, L 2N3765	Unit
Collector-Emitter Voltage	V_{CEO}	40	60	Vdc
Collector-Base Voltage	V_{CBO}	40	60	Vdc
Emitter-Base Voltage	V_{EBO}	5.0		Vdc
Collector Current	I_C	1.5		Adc
		2N3762, L ⁽¹⁾ 2N3763, L	2N3764 ⁽²⁾ 2N3765	
Total Power Dissipation @ $T_A = +25^{\circ}C$	P_T	1.0	0.5	W
Operating & Storage Junction Temperature Range	T_J, T_{stg}	-55 to +200		$^{\circ}C$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.		Unit
		2N3762, L 2N3763, L	2N3764 2N3765	
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	60	88	$^{\circ}C/W$

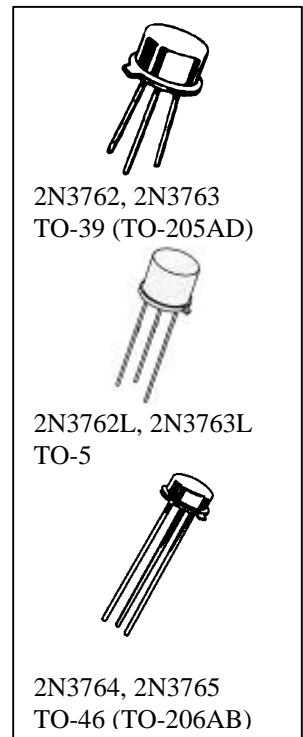
 1) Derate linearly at 5.71 mW/ $^{\circ}C$ for $T_A > +25^{\circ}C$

 2) Derate linearly at 2.86 mW/ $^{\circ}C$ for $T_A > +25^{\circ}C$
ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}C$ unless otherwise noted)

Characteristics	Symbol	Min.	Max.	Unit
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OFF CHARACTERISTICS

Collector-Base Breakdown Voltage $I_C = 10 \mu A_{dc}$	2N3762, L, 2N3764 2N3763, L, 2N3765	$V_{(BR)CBO}$	40 60	Vdc
Collector-Emitter Breakdown Current $I_C = 10 mA_{dc}$	2N3762, L, 2N3764 2N3763, L, 2N3765	$V_{(BR)CEO}$	40 60	Vdc
Emitter-Base Breakdown Voltage $I_E = 10 \mu A_{dc}$		$V_{(BR)EBO}$	5.0	Vdc



2N3762, L, 2N3763, L, 2N3764, 2N3765 JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
Collector-Base Cutoff Current V _{CB} = 20 Vdc V _{CB} = 30 Vdc	I _{CBO}		100 100	ηAdc
Collector-Emitter Cutoff Current V _{EB} = 2.0 Vdc, V _{CE} = 20 Vdc V _{EB} = 2.0 Vdc, V _{CE} = 30 Vdc	I _{CEX}		100 100	ηAdc
Emitter-Base Cutoff Current V _{EB} = 2.0 Vdc	I _{EBO}		200	ηAdc

ON CHARACTERISTICS (3)

Forward-Current Transfer Ratio I _C = 10 mA _{dc} , V _{CE} = 1.0 Vdc I _C = 150 mA _{dc} , V _{CE} = 1.0 Vdc I _C = 500 mA _{dc} , V _{CE} = 1.0 Vdc I _C = 1.0 Adc, V _{CE} = 1.5 Vdc I _C = 1.5 Adc, V _{CE} = 5.0 Vdc	h _{FE}	35 40 40 30 30 20	140 120 80	
Collector-Emitter Saturation Voltage I _C = 10 mA _{dc} , I _B = 1.0 mA _{dc} I _C = 150 mA _{dc} , I _B = 15 mA _{dc} I _C = 500 mA _{dc} , I _B = 50 mA _{dc} I _C = 1.0 Adc, I _B = 100 mA _{dc}	V _{CE(sat)}		0.1 0.22 0.5 0.9	Vdc
Base-Emitter Saturation Voltage I _C = 10 mA _{dc} , I _B = 1.0 mA _{dc} I _C = 150 mA _{dc} , I _B = 15 mA _{dc} I _C = 500 mA _{dc} , I _B = 50 mA _{dc} I _C = 1.0 Adc, I _B = 100 mA _{dc}	V _{BE(sat)}	0.9	0.8 1.0 1.2 1.4	Vdc

DYNAMIC CHARACTERISTICS

Forward Current Transfer Ratio, Magnitude I _C = 50 mA _{dc} , V _{CE} = 10 Vdc, f = 100 MHz	h _{fe}	1.8 1.5	6.0 6.0	
Output Capacitance V _{CB} = 10 Vdc, I _E = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{obo}		25	pF
Input Capacitance V _{EB} = 0.5 Vdc, I _C = 0, 100 kHz ≤ f ≤ 1.0 MHz	C _{ibo}		80	pF

SWITCHING CHARACTERISTICS

Delay Time	V _{CC} = 30 Vdc, V _{EB} = 0,	t _d	8.0	ηs
Rise Time	I _C = 1.0 mA _{dc} , I _{B1} = 100 mA _{dc}	t _r	35	ηs
Storage Time	V _{CC} = 30 Vdc, V _{EB} = 0,	t _s	80	ηs
Fall Time	I _C = 1.0 mA _{dc} , I _{B1} = 100 mA _{dc}	t _f	35	ηs

(3) Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%.